

Abstract

The present invention pertains to a process to make salt compositions comprising the steps of

- 5 - feeding water to a salt source to form an aqueous solution comprising said salt,
- feeding said aqueous solution to a crystalliser/settler,
- contacting said aqueous solution with one or more antisolvents which force the salt to crystallise, with said antisolvents exhibiting crystal
- 10 growth inhibiting properties and/or crystallisation and scale inhibiting properties, and/or where one or more crystal growth inhibitors are present either in the antisolvents or the aqueous solution and/or one or more scaling inhibitors are present either in the antisolvents or the aqueous solution,
- 15 - feeding an overflow of the crystalliser/settler comprising one or more antisolvents and an aqueous salt solution to a nanofiltration unit comprising a membrane to separate the one or more antisolvents from the aqueous salt solution,
- removing the crystallised salt in an aqueous slurry,
- 20 - optionally, recycling the one or more antisolvents to the crystalliser/-settler, and
- optionally, recycling water from the slurry to the first dissolution step and/or to the crystalliser/settler.

Preferably, the process is a closed loop process and the salt is sodium chloride.

- 25 Preferably, the process further comprises a reverse osmosis step before the overflow of the crystalliser/settler is fed to a nanofiltration unit.